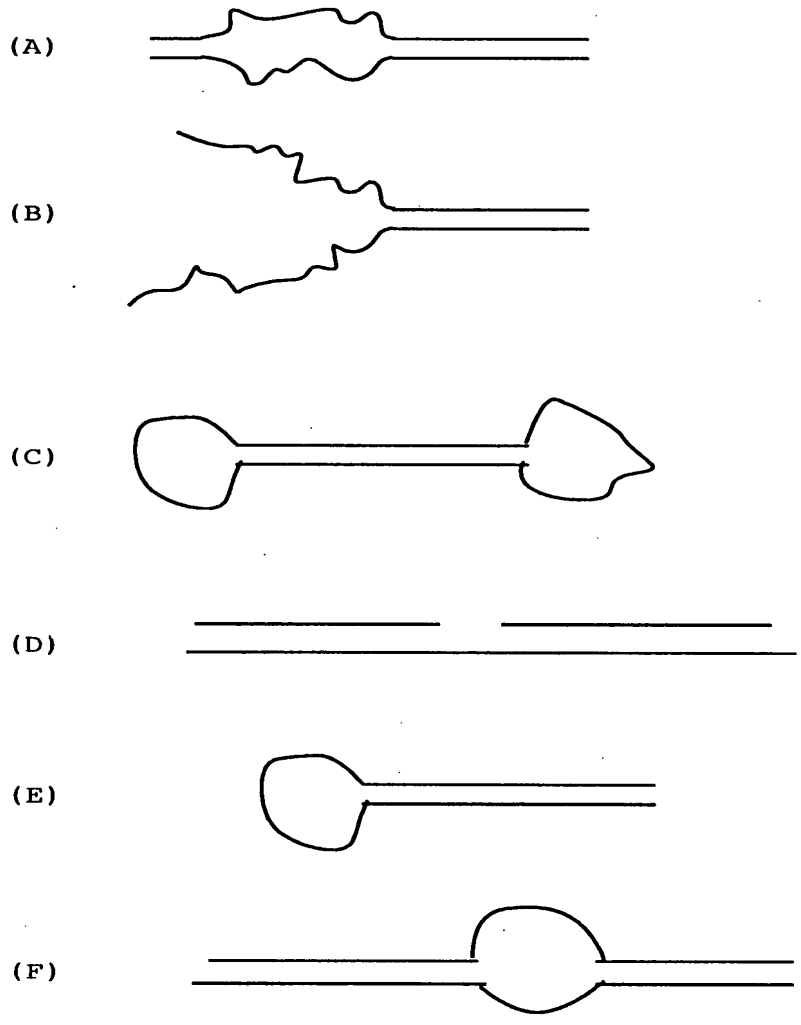



**Figure 1 (A-F)**

**Construct Forms Comprising at Least one Single-Stranded Region**

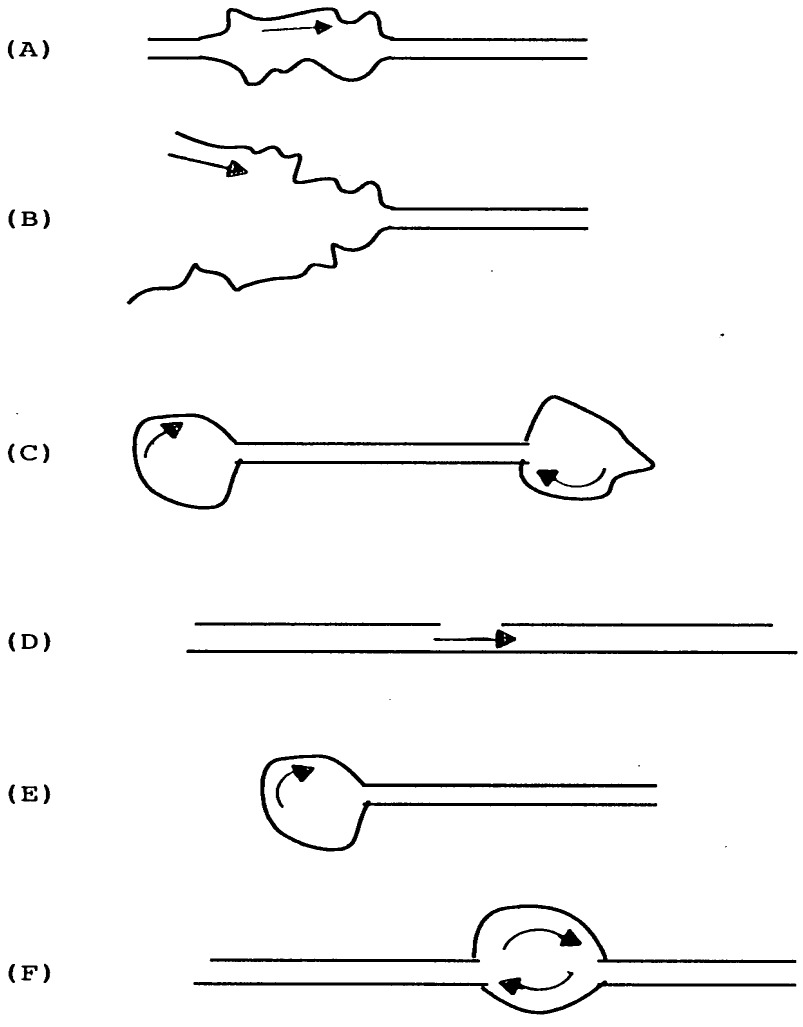



**Figure 2 (A-F)**

**Functional Forms of the Construct**

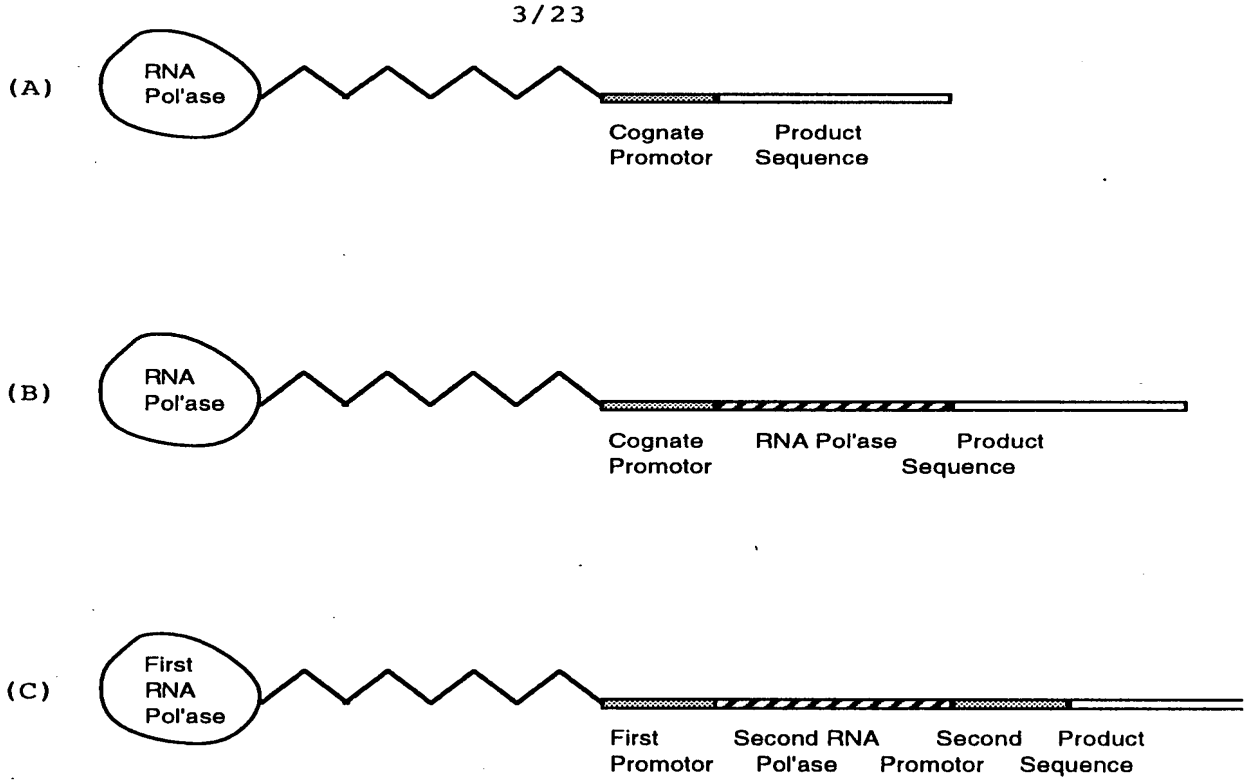



**Figure 3 (A-C)**

**Three Constructs with an RNA Polymerase Covalently Attached to a Transcribing Cassette**

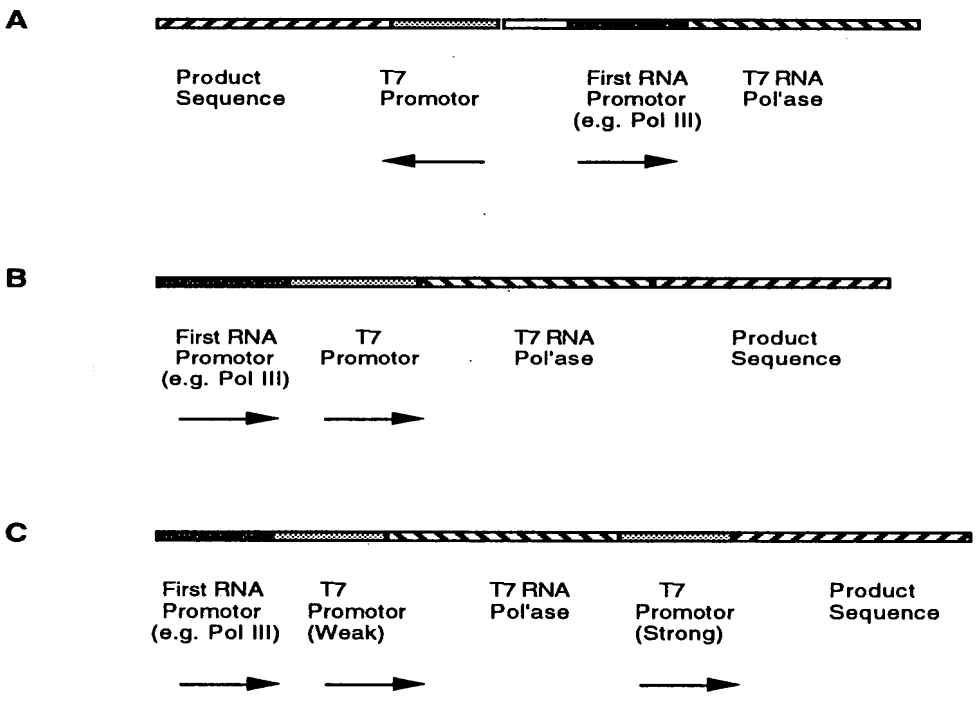



**Figure 4 (A-C)**

**Three Constructs with Promoters for Endogenous RNA Polymerase**

M13mp18. Seq Length: 7250

| | | | | | |
|---|---|---|---|---|---|
| 1. | AATGCTACTA | CTATTAGTAG | AATTGATGCC | ACCTTTTCAG | CTCGCGCCCC |
| 51. | AAATGAAAAT | ATAGCTAAAC | AGGTTATTGA | CCATTTGCGA | AATGTATCTA |
| 101. | ATGGTCAAAC | TAAATCTACT | CGTTCGCAGA | ATTGGGAATC | AACTGTTACA |
| 151. | TGGAATGAAA | CTTCCAGACA | CCGTACTTTA | GTTGCATATT | TAAAACATGT |
| 201 | TGAGCTACAG | CACCAGATTC | AGCAATTAAG | CTCTAAGCCA | TCCGCAAAAA |
| 251 | TGACCTCTTA | TCAAAAGGAG | CAATTAAAGG | TACTCTCTAA | TCCTGACCTG |
| 301. | TTGGAGTTTG | CTTCCGGTCT | GGTTCGCTTT | GAAGCTCGAA | TTAAAACGCG |
| 351. | ATATTTGAAG | TCTTTCGGGC | TTCCTCTTAA | TCTTTTTGAT | GCAATCCGCT |
| 401. | TTGCTTCTGA | CTATAATAGT | CAGGGTAAAG | ACCTGATTTT | TGATTTATGG |
| 451. | TCATTCTCGT | TTTCTGAACT | GTTTAAAGCA | TTTGAGGGGG | ATTCAATGAA |
| 501. | TATTTATGAC | GATTCCGCAG | TATTGGACGC | TATCCAGTCT | AAACATTTTA |
| 551. | CTATTACCCC | CTCTGGCAAA | ACTTCTTTTG | CAAAAGCCTC | TCGCTATTTT |
| 601. | GGTTTTTATC | GTCGTCTGGT | AAACGAGGGT | TATGATAGTG | TTGCTCTTAC |
| 651. | TATGCCTCGT | AATTCCTTTT | GGCGTTATGT | ATCTGCATTA | GTTGAATGTG |
| 701. | GTATTCCTAA | ATCTCAACTG | ATGAATCTTT | CTACCTGTAA | TAATGTTGTT |
| 751. | CCGTTAGTTC | GTTTTATTAA | CGTAGATTTT | TCTTCCCAAC | GTCCTGACTG |
| 801. | GTATAATGAG | CCAGTTCTTA | AAATCGCATA | AGGTAATTCA | CAATGATTAA |
| 851. | AGTTGAAATT | AAACCATCTC | AAGCCCAATT | TACTACTCGT | TCTGGTGTTC |
| 901. | TCGTCAGGGC | AAGCTTATT | CACTGAATGA | GCAGCTTTGT | TACGTTGATT |
| 951. | TGGGTAATGA | ATATCCGGTT | CTTGTCGAAG | ATTACTCTTG | ATGAAGGTCA |
| 1001 | GCCAGCCTAT | GCGCCTGGTC | TGTACACCGT | TCATCTGTCC | TCTTTCAAAG |
| 1051 | TTGGTCAGTT | CGGTTCCCTT | ATGATTGACC | GTCTGCGCCT | CGTTCCGGCT |
| 1101 | AAGTAACATG | GAGCAGGTCG | CGGATTTCGA | CACAATTTAT | CAGGCGATGA |
| 1151 | TACAAATCTC | CGTTGTACCTT | TGTTTCGCGC | TTGGTATAAT | CGCTGGGGGT |
| 1201 | CAAAGATGAG | TGTTTTAGTG | TATTCTTTCG | CCTCTTTCGT | TTTAGGTTGG |

**Figure 5**

**M13mp18 Nucleic Acid Sequence**

| | | | | | |
|---|---|---|---|---|---|
| 1251 | TGCCTTCGTA | GTGGCATTAC | GTATTTTACC | CGTTTAATGG | AAACTTCCTC |
| 1301 | ATGAAAAAGT | CTTTAGTCCT | CAAAGCCTCT | GTAGCCGTTG | CTACCCTCGT |
| 1351 | TCCGATGCTG | TCTTTCGCTG | CTGAGGGTGA | CGATCCCGCA | AAAGCGGCCT |
| 1401 | TTAACTCCCT | GCAAGCCTCA | GCGACCGAAT | ATATCGGTTA | TGCGTGGGCG |
| 1451 | ATGGTTGTTG | TCATTGTCGG | CGCAACTATC | GGTATCAAGC | TGTTTAAGAA |
| 1501 | ATTCACCTCG | AAAGCAAGCT | GATAAACCGA | TACAATTAAA | GGCTCCTTTT |
| 1551 | GGAGCCTTTT | TTTTTGGAGA | TTTTCAACGT | GAAAAAATTA | TTATTCGCAA |
| 1601 | TTCCTTTAGT | TGTTCCTTTC | TATTCTCACT | CCGCTGAAAC | TGTTGAAAGT |
| 1651 | TGTTTAGCAA | AACCCCATAC | AGAAAATTCA | TTTACTAACG | TCTGGAAAGA |
| 1701 | CGACAAAACT | TTAGATCGTT | ACGCTAACTA | TGAGGGTTGT | CTGTGGAATG |
| 1751 | CTACAGGCGT | TGTAGTTTGT | ACTGGTGACG | AAACTCAGTG | TTACGGTACA |
| 1801 | TGGGTTCCTA | TTGGGCTTGC | TATCCCTGAA | AATGAGGGTG | GTGGCTCTGA |
| 1851 | GGGTGGCGGT | TCTGAGGGTG | GCGGTTCTGA | GGGTGGCGGT | ACTAAACCTC |
| 1901 | CTGAGTACGG | TGATACACCT | ATTCCGGGCT | ATACTTATAT | CAACCCTCTC |
| 1951 | GACGGCACTT | ATCCGCCTGG | TACTGAGCAA | AACCCGCTA | ATCCTAATCC |
| 2001 | TTCTCTTGAG | GAGTCTCAGC | CTCTTAATAC | TTTCATGTTT | CAGAATAATA |
| 2051 | GGTTCCGAAA | TAGGCAGGGG | GCATTAACTG | TTTATACGGC | CACTGTTACT |
| 2101 | CAAGGCACTG | ACCCCGTTAA | AACTTATTAC | CAGTACACTC | CTGTATCATC |
| 2151 | AAAAGCCATG | TATGACGCTT | ACTGGAACGG | TAAATTCAGA | GACTGCGCTT |
| 2201 | CAAGGCACTG | ACCCCGTTAA | AACTTATTAC | CAGTACACTC | CTGTATCATC |
| 2151 | AAAAGCCATG | TGCCTCAACC | TCCTGTCAAT | GCTGGCGGCG | GCTCTGGTGG |
| 2201 | TCCATTCTGG | CTTTAATCAA | GATCCATTCG | TTTGTGAATA | TCAAGGCCAA |
| 2251 | TCGTCTGACC | TGCCTCAACC | TCCTGTCAAT | GCTGGCGGCG | GCTCTGGTGG |
| 2301 | TGGTTCTGGT | GGCGGCTCTG | AGGGTGGTGG | CTCTGAGGGT | GGCGGTTCTG |
| 2351 | AGGGTGGCGG | CTCTGAGGGA | GGCGGTTCCG | GTGGTGGCTC | TGGTTCCGGT |
| 2401 | GATTTTGATT | ATGAAAAGAT | GGCAAACGCT | AATAAGGGGG | CTATGACCGA |
| 2451 | AAATGCCGAT | GAAAACGCGC | TACAGTCTGA | CGCTAAAGGC | AAACTTGATT |

**Figure 5**

**M13mp18 Nucleic Acid Sequence**

| | | | | | |
|---|---|---|---|---|---|
| 2501 | CTGTCGCTAC | TGATTACGGT | GCTGCTATCG | ATGGTTTCAT | TGGTGACGTT |
| 2551 | TCCGGCCTTG | CTAATGGTAA | TGGTGCTACT | GGTGATTTTG | CTGGCTCTAA |
| 2601 | TTCCCAAATG | GCTCAAGTCG | GTGACGGTGA | TAATTCACCT | TTAATGAATA |
| 2651 | ATTTCCGTCA | ATATTTACCT | TCCCTCCCTC | AATCGGTTGA | ATGTCGCCCT |
| 2701 | TTTGTCTTTA | GCGCTGGTAA | ACCATATGAA | TTTTCTATTG | ATTGTGACAA |
| 2751 | AATAAACTTA | TTCCGTGGTG | TCTTTGCGTT | TCTTTTATAT | GTTGCCACCT |
| 2801 | TTATGTATGT | ATTTTCTACG | TTTGCTAACA | TACTGCGTAA | TAAGGAGTCT |
| 2851 | TTATCATGCC | AGTTCTTTTG | GGTATTCCGT | TATTATTGCG | TTTCCTCGGT |
| 2901 | TTCCTTCTGG | TAACTTTGTT | CGGCTATCTG | CTTACTTTTC | TTAAAAAGGG |
| 2951 | CTTCGGTAAG | ATAGCTATTG | CTATTTCATT | GTTTCTTGCT | CTTATTATTG |
| 3001 | GGCTTAACTC | AATTCTTGTG | GGTTATCTCT | CTGATATTAG | CGCTCAATTA |
| 3051 | CCCTCTGACT | TTGTTCAGGG | TGTTCAGTTA | ATTCTCCCGT | CTAATGCGCT |
| 3101 | TCCCTGTTTT | TATGTTATTC | TCTCTGTAAA | GGCTGCTATT | TTCATTTTTG |
| 3151 | ACGTTAAACA | AAAAATCGTT | TCTTATTTGG | ATTGGGATAA | ATAATATGGC |
| 3201 | TGTTTATTTT | GTAACTGGCA | AATTAGGCTC | TGGAAAGACG | CTCGTTAGCG |
| 3251 | TTGGTAAGAT | TCAGGATAAA | ATTGTAGCTG | GGTGCAAAAT | AGCAACTAAT |
| 3301 | CTTGATTTAA | GGCTTCAAAA | CCTCCCGCAA | GTCGGGAGGT | TCGCTAAAAC |
| 3351 | GCCTCGCGTT | CTTAGAATAC | CGGATAAGCC | TTCTATATCT | GATTTGCTTG |
| 3401 | CTATTGGGCG | CGGTAATGAT | TCCTACGAATG | AAAATAAAAA | CGGCTTGCTT |
| 3451 | GTTCTCGATG | AGTGCGGTAC | TTGGTTTAAT | ACCCGTTCTT | GGAATGATAA |
| 3501 | GGAAAGACAG | CCGATTATTG | ATTGGTTTCT | ACTGCTCGT | AAATTAGGAT |
| 3551 | GGGATATTAT | TTTTCTTGTT | CAGGACTTAT | CTATTGTTGA | TAAACAGGCG |
| 3601 | CGTTCTGCAT | TAGCTGAACA | TGTTGTTTAT | TGTCGTCGTC | TGGACAGAAT |
| 3651 | TACTTTACCT | TTTGTCGGTA | CTTTATATTC | TCTTATTACT | GGCTCGAAAA |
| 3701 | TGCCTCTGCC | TAAATTACAT | GTTGGCGTTG | TTAAATATGG | CGATTCTCAA |
| 3751 | TTAAGCCCTA | CTGTTGAGCG | TTGGCTTTAT | ACTGGTAAGA | ATTTGTATAA |
| 3801 | CGCATATGAT | ACTAAACAGG | CTTTTTCTAG | TAATTATGAT | TCCGGTGTTT |

**Figure 5**

**M13mp18 Nucleic Acid Sequence**

| | | | | | |
|---|---|---|---|---|---|
| 3851 | ATTCTTATTT | AACGCCTTAT | TTATCACACG | GTCGGTATTT | CAAACCATTA |
| 3901 | AATTTAGGTC | AGAAGATGAA | ATTAACTAAA | ATAATATTGA | AAAAGTTTTC |
| 3951 | TCGCGTTCTT | TGTCTTGCGA | TTGGATTTGC | ATCAGCATTT | ACATATAGTT |
| 4001 | ATATAACCCA | ACCTAAGCCG | GAGGTTAAAA | AGGTAGTCTC | TCAGACCTAT |
| 4051 | GATTTTGATA | AATTCACTAT | TGACTCTTCT | CAGCGTCTTA | ATCTAAGCTA |
| 4101 | TCGCTATGTT | TTCAAGGATT | CTAAGGGAAA | ATTAATTAAT | AGCGACGATT |
| 4151 | TACAGAAGCA | AGGTTATTCA | CTCACATATA | TTGATTTATG | TACTGTTTCC |
| 4201 | ATTAAAAAAG | GTAATTCAAA | TGAAATTGTT | AAATGTAATT | AATTTTGTTT |
| 4251 | TCTTGATGTT | TGTTTCATCA | TCTTCTTTTG | CTCAGGTAAT | TGAAATGAAT |
| 4301 | AATTCGCCTC | TGCGCGATTT | TGTAACTTGG | TATTCAAAGC | AATCAGGCGA |
| 4351 | AATCCGTTATT | GTTTCTCCCG | ATGTAAAAGG | TACTGTTACT | GTATATTCAT |
| 4401 | CTGACGTTAA | ACCTGAAAAT | CTACGCAATT | TCTTTATTTC | TGTTTTACGT |
| 4451 | GCTAATAATT | TTGATAATGGT | TGGTTCAATT | CCTTCCATAA | TTCAGAAGTA |
| 4501 | TAATCCAAAC | AATCAGGATT | ATATTGATGA | ATTGCCATCA | TCTGATAATC |
| 4551 | AGGAATATGA | TGATAATTCC | GCTCCTTCTG | GTGGTTTCTT | TGTTCCGCAA |
| 4601 | AATGATAATG | TTACTCAAAC | TTTTAAAATT | AATAACGTTC | GGGCAAAGGA |
| 4651 | TTTAATACGA | GTTGTCGAAT | TGTTTGTAAA | GTCTAATACT | TCTAAATCCT |
| 4701 | CAAATGTATT | ATCTATTGAC | GGCTCTAATC | TATTAGTTGT | TAGTGCTCCT |
| 4751 | AAAGATATTT | TAGATAACCT | TCCTCAATTC | CTTTCTACTG | TTGATTTGCC |
| 4801 | AACTGACCAG | ATATTGATTG | AGGGTTTGAT | ATTTGAGGTT | CAGCAAGGTG |
| 4851 | ATGCTTTAGA | TTTTTCATTT | GCTGCTGGCT | CTCAGCGTGG | CACTGTTGCA |
| 4901 | GGCGGTGTTA | ATACTGACCG | CCTCACCTCT | GTTTTATCTT | CTGCTGGTGG |
| 4951 | TTCGTTCGGT | ATTTTTAATG | GCGATGTTTT | AGGGCTATCA | GTTCGCGCAT |
| 5001 | TAAAGACTAA | TAGCCATTCA | AAAATATTGT | CTGTGCCACG | TATTCTTACG |
| 5051 | CTTTCAGGTC | AGAAGGGTTC | TATCTCTGTT | GGCCAGAATG | TCCCTTTTAT |
| 5101 | TAAAGACTAA | TAGCCATTCA | AAAATATTGT | CTGTGCCACG | TATTCTTACG |
| 5151 | CGATTGAGCG | TCAAAATGTA | GGTATTTCCA | TGAGCGTTTT | TCCTGTTGCA |

**Figure 5**

**M13mp18 Nucleic Acid Sequence**

| | | | | | |
|---|---|---|---|---|---|
| 5201 | ATGGCTGGCG | GTAATATTGT | TCTGGATATT | ACCAGCAAGG | CCGATAGTTT |
| 5251 | GAGTTCTCT | ACTCAGGCAA | GTGATGTTAT | TACTAATCAA | AGAAGTATTG |
| 5301 | CTACAACGGT | TAATTTGCGT | GATGGACAGA | CTCTTTTACT | CGGTGGCCTC |
| 5351 | ACTGATTATA | AAAACACTTC | TCAAGATTCT | GGCGTACCGT | TCCTGTCTAA |
| 5401 | AATCCCTTTA | ATCGGCCTCC | TGTTTAGCTC | CCGCTCTGAT | TCCAACGAGG |
| 5451 | AAAGCACGTT | ATACGTGCTC | GTCAAAGCAA | CCATAGTACG | CGCCCTGTAG |
| 5501 | CGGCGCATTA | AGCGCGGCGG | GTGTGGTGGT | TACGCGCAGC | GTGACCGCTA |
| 5551 | CACTTGCCAG | CGCCCTAGCG | CCCGCTCCTT | TCGCTTTCTT | CCCTTCCTTT |
| 5601 | CTCGCCACGT | TCGCCGGCTT | TCCCCGTCAA | GCTCTAAATC | GGGGGCTCCC |
| 5651 | TTTAGGGTTC | CGATTTAGTG | CTTTACGGCA | CCTCGACCCC | AAAAAACTTG |
| 5701 | ATTTGGGTGA | TGGTTCACGT | AGTGGGCCAT | CGCCCTGATA | GACGGTTTTT |
| 5751 | CGCCCTTTGA | CGTTGGAGTC | CACGTTCTTT | AATAGTGGAC | TCTTGTTCCA |
| 5801 | AACTGGAACA | ACACTCAACC | CTATCTCGGG | CTATTCTTTT | GATTTATAAG |
| 5851 | GGATTTTGCC | GATTTCGGAA | CCACCATCAA | ACAGGATTTT | CGCCTGCTGG |
| 5901 | GGCAAACCAG | CGTGGACCGC | TTGCTGCAAC | TCTCTCAGGG | CCAGGCGGTG |
| 5951 | AAGGGCAATC | AGCTGTTGCC | CGTCTCGCTG | GTGAAAAGAA | AAACCACCCT |
| 6001 | GGCGCCCAAT | ACGCAAACCG | CCTCTCCCCG | CGCGTTGGCC | GATTCATTAA |
| 6051 | TGCAGCTGGC | ACGACAGGTT | TCCCGACTGG | AAAGCGGGCA | GTGAGCGCAA |
| 6101 | CGCAATTAAT | GTGAGTTAGC | TCACTCATTA | GGCACCCCAG | GCTTTACACT |
| 6151 | TTATGCTTCC | GGCTCGTATG | TTGTGTGGAA | TTGTGAGCGG | ATAACAATTT |
| 6201 | CACACAGGAA | ACAGCTATGA | CCATGATTAC | GAATTCGAGC | TCGGTACCCG |
| 6251 | GCGATCCTCT | AGAGTCGACC | TGCAGGCATG | CAAGCTTGGC | ACTGGCCGTC |
| 6301 | GTTTTACAAC | GTCGTGACTG | GGAAAACCCT | GGCGTTACCC | AACTTAATCG |
| 6351 | CCTTGCAGCA | CAATCCCCTT | TCGCCAGCTG | GCGTAATAGC | GAAGAGGCCC |
| 6401 | GCACCGATCG | CCCTTCCCAA | CAGTTGCGCA | GCCTGAATGG | CGAATGGCGC |
| 6451 | TTTGCCTGGT | TTCCGGCACC | AGAAGCGGTG | CCGGAAAGCT | GGCTGGAGTG |
| 6501 | CGATCTTCCT | GAGGCCGATA | CGGTCGTCGT | CCCCTCAAAC | TGGCAGATGC |

**Figure 5**

**M13mp18 Nucleic Acid Sequence**

| | | | | | |
|---|---|---|---|---|---|
| 6551 | ACGGTTACGA | TGCGCCCATC | TACACCAACG | TAACCTATCC | CATTACGGTC |
| 6601 | AATCCGCCGT | TTGTTCCCAC | GGAGAATCCG | ACGGGTTGTT | ACTCGCTCAC |
| 6651 | ATTTAATGTT | GATGAAAGCT | GGCTACAGGA | AGGCCAGACG | CGAATTATTT |
| 6701 | TTGATGGCGT | TCCTATTGGT | TAAAAAATGA | GCTGATTTAA | CAAAAATTTA |
| 6751 | ACGCGAATTT | TAACAAAATA | TTAACGTTTA | CAATTTAAAT | ATTTGCTTAT |
| 6801 | ACAATCTTCC | TGTTTTTGGG | GCTTTTCTGA | TTATCAACCG | GGGTACATAT |
| 6851 | GATTGACATG | CTAGTTTTAC | GATTACCGTT | CATCGATTCT | CTTGTTTGCT |
| 6901 | CCAGACTCTC | AGGCAATGAC | CTGATAGCCT | TTGTAGATCT | CTCAAAAATA |
| 6951 | GCTACCCTCT | CCGGCATGAA | TTTATCAGCT | AGAACGGTTG | AATATCATAT |
| 7001 | TGATGGTGAT | TTGACTGTCT | CCGGCCTTTC | TCACCCTTTT | GAATCTTTAC |
| 7051 | CTACACATTA | CTCAGGCATT | GCATTTAAAA | TATATGAGGG | TTCTAAAAAT |
| 7101 | TTTTATCCTT | GCGTTGAAAT | AAAGGCTTCT | CCCGCAAAAG | TATTACAGGG |
| 7151 | TCATAATGTT | TTTGGTACAA | CCGATTTAGC | TTTATGCTCT | GAGGCTTTAT |

**Figure 5**

**M13mp18 Nucleic Acid Sequence**

COMPLEMENTARY TO $M_{13}$

| POSITION | 5' * 3' | POSITION | |
|---|---|---|---|
| 645 | AGCAACACTATCATA | 631 | $M_{13}/1$ |
| 615 | ACGACGATAAAAACC | 601 | $M_{13}/2$ |
| 585 | TTTTGCAAAAGAAGT | 571 | $M_{13}/3$ |
| 555 | AATAGTAAAATGTTT | 541 | $M_{13}/4$ |
| 525 | CAATACTGCGGAATG | 511 | $M_{13}/5$ |
| 495 | TGAATCCCCCTCAAA | 481 | $M_{13}/6$ |
| 465 | AGAAAACGAGAATGA | 451 | $M_{13}/7$ |
| 435 | CAGGTCTTTACCCTG | 421 | $M_{13}/8$ |
| 405 | AGGAAAGCGGATTGC | 391 | $M_{13}/9$ |
| 375 | AGGAAGCCCGAAAGA | 361 | $M_{13}/10$ |

COMPLEMENTARY TO SS PHAGE DNA

| POSITION | 5' * * 3' | POSITION | |
|---|---|---|---|
| 351 | ATATTTGAAGTCTTT | 366 | $M_{13}/11$ |
| 371 | TCTTTTTGATGCAAT | 386 | $M_{13}/12$ |
| 391 | CTATAATACTCAGGG | 406 | $M_{13}/13$ |
| 411 | TGATTTATGGTCATT | 426 | $M_{13}/14$ |
| 431 | GTTTAAAGCATTTGA | 446 | $M_{13}/15$ |
| 451 | TATTTATGACGATTC | 466 | $M_{13}/16$ |
| 471 | TATCCAGTCTAAACA | 486 | $M_{13}/17$ |
| 491 | CTCTGGCAAAACTTC | 506 | $M_{13}/18$ |
| 511 | TCGCTATTTTGGTTT | 526 | $M_{13}/19$ |
| 531 | AAACGAGGGTTATGA | 546 | $M_{13}/20$ |

**Figure 6**

**Primers for Nucleic Acid Production Derived from M13mp18 Sequence**

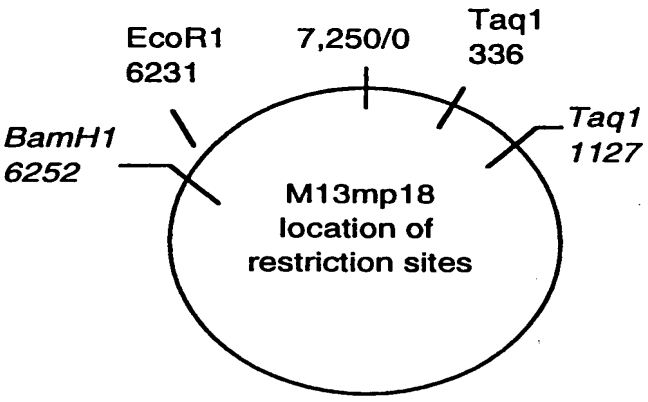
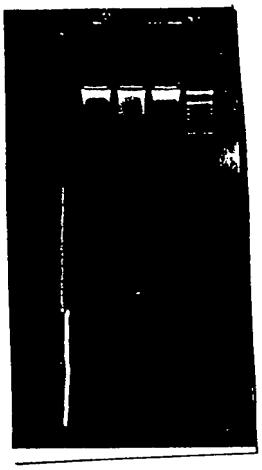



**Figure 7**

**Appropriate M13mp18 Restriction Sites**

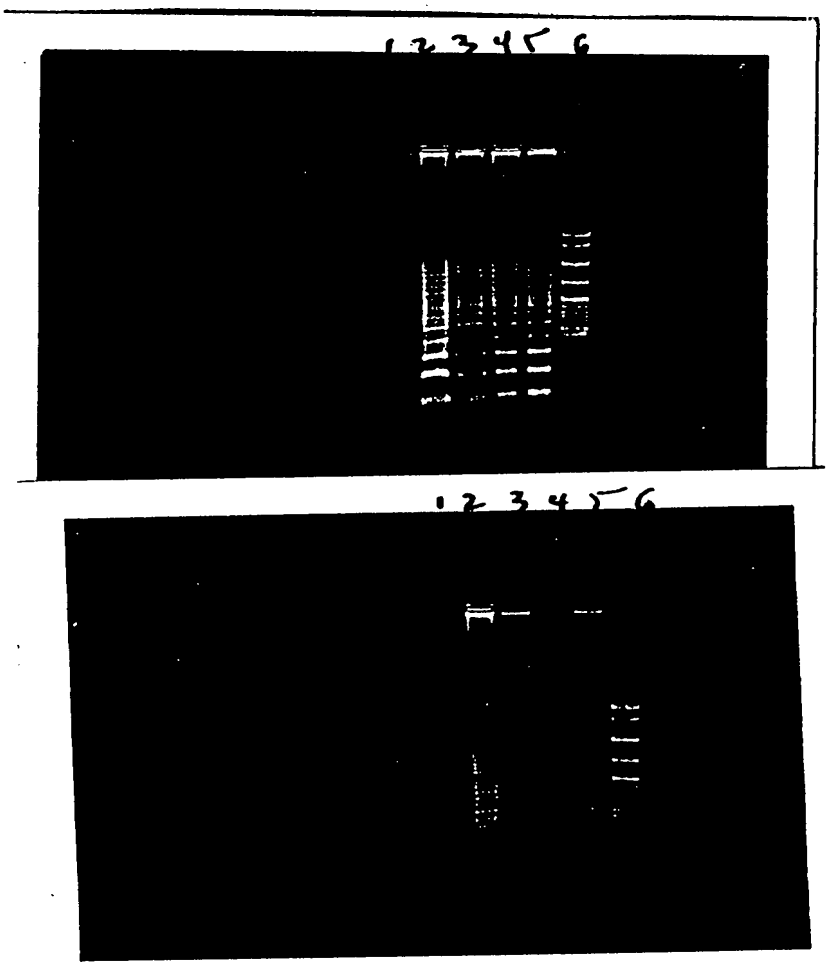


Lane 1: from calf thymus + Taq digested mp18 amplification reaction
Lane 2: from Taq digested mp18 amplification reaction
Lane 3: from calf thymus amplification reaction
Lane 4: øX174 Hinf1 size marker

**Figure 8**

Lane 1: no template
Lane 2: mp18 template, phosphate buffer
Lane 3: MspI/pBR322 size marker
Lane 4: mp18 template, MOPS buffer

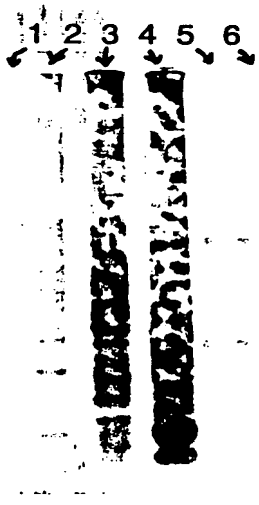
**Figure 9**




Top= (+) Template
Bottom= (-) Template

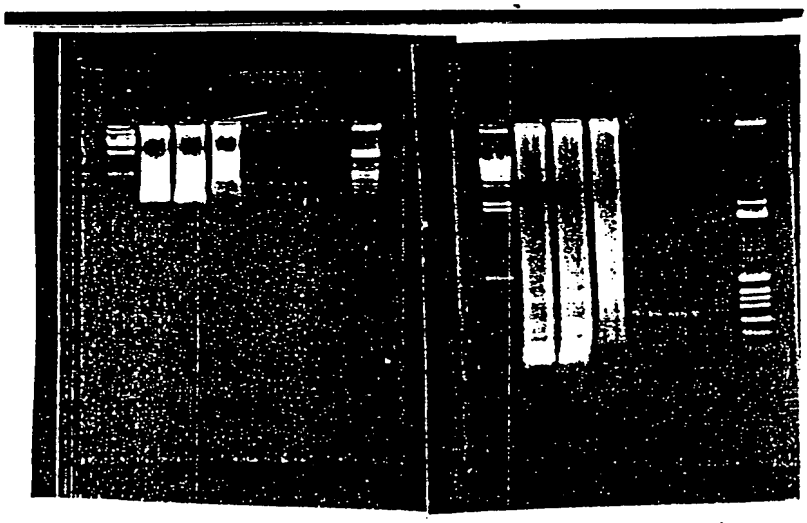
Lane 1: phosphate buffer
Lane 2: MES
Lane 3: MOPS
Lane 4: DMAB
Lane 5: DMG
Lane 6: pBR322/MspI size marker

**Figure 10**




Lane 1: DMAB buffer, no template
Lane 2: DMAB buffer, mp18 template
Lane 3: DMG buffer, no template
Lane 4: DMG buffer, mp18 template
Lane 5: No reaction
Lane 6: 200 ng Taq I digested mp18 size marker/positive control

**Figure 11**



First Time Interval Second Time Interval

Agarose Gel Analysis

Lane 1: lambda Hind III marker
Lane 2: Amp/Untreated
Lane 3: Amp/Kinased
Lane 4: Amp/Kinased/Ligated
Lane 5: PCR/Untreated
Lane 6: PCR/Kinased
Lane 7: PCR/Kinased/Ligated
Lane 8: øX174/Hinf1 marker

**Figure 12**

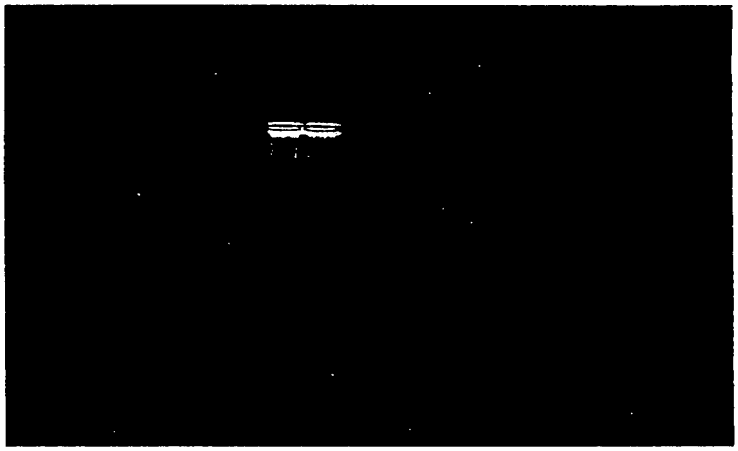
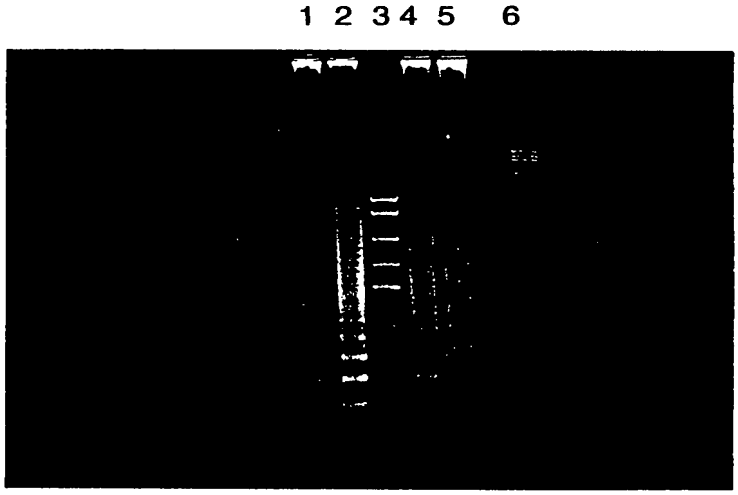
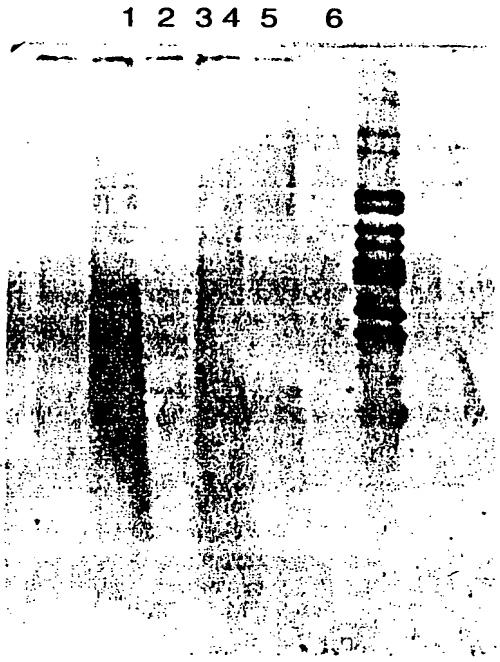


**Figure 13**




Lane 1: Primers alone
Lane 2: Primers + taq digested M13 DNA
Lane 3: Molecular weight markers
Lane 4: Primers + RNA
Lane 5: Primers alone
Lane 6: M13 digested DNA
Buffer was dimethyl amino glycine, pH 8.6

**Figure 14**




Lane 1: Primers alone
Lane 2: Primers + taq digested M13 DNA
Lane 3: Molecular weight markers
Lane 4: Primers + RNA
Lane 5: Primers alone
Lane 6: M13 digested DNA
Buffer was dimethyl amino glycine, pH 8.6

**Figure 15**

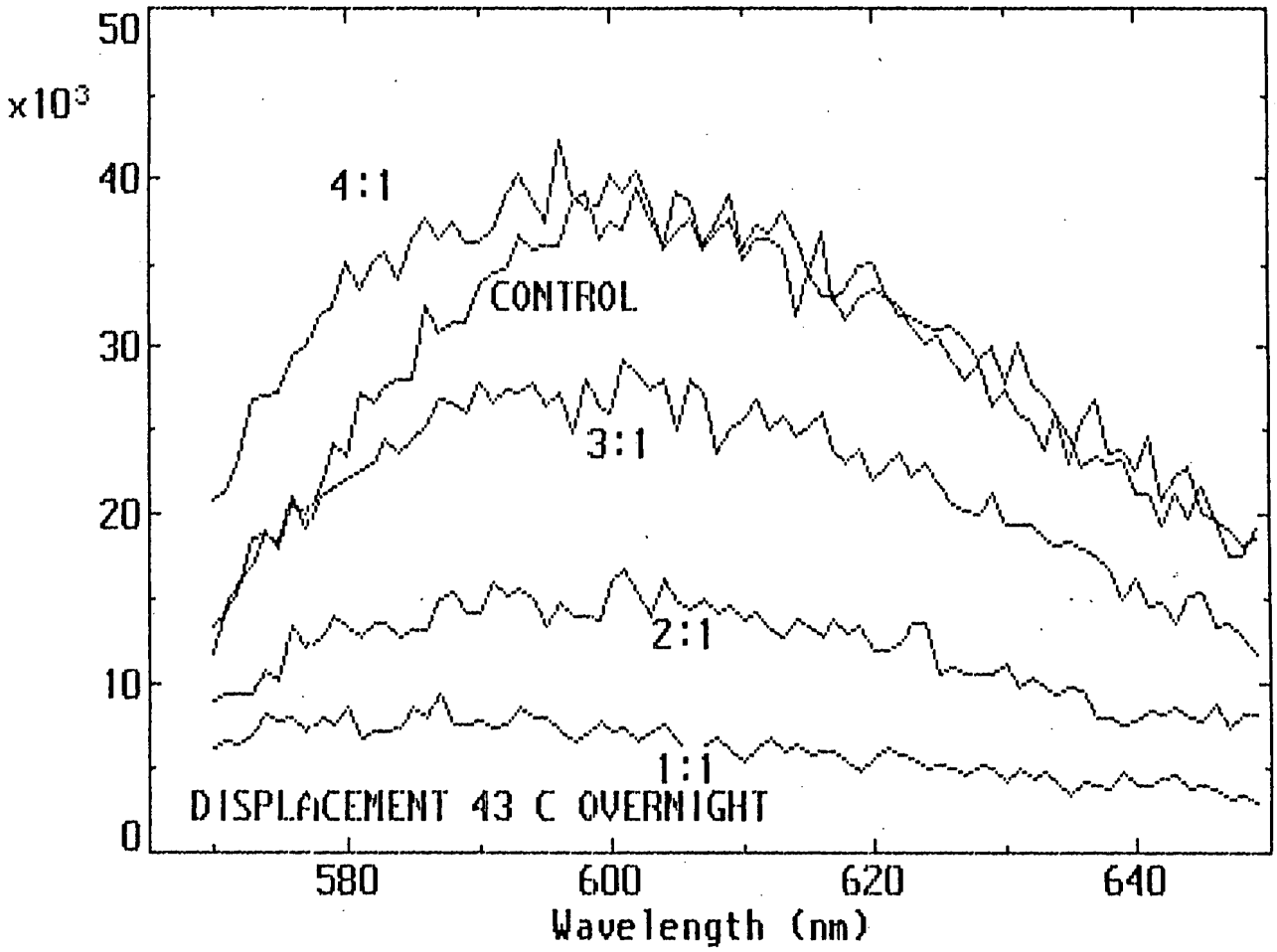

50
x10³
40
30
20
10
0
4:1
CONTROL
3:1
2:1
1:1
DISPLACEMENT 43 C OVERNIGHT
580
600
620
640
Wavelength (nm)

**Figure 16**

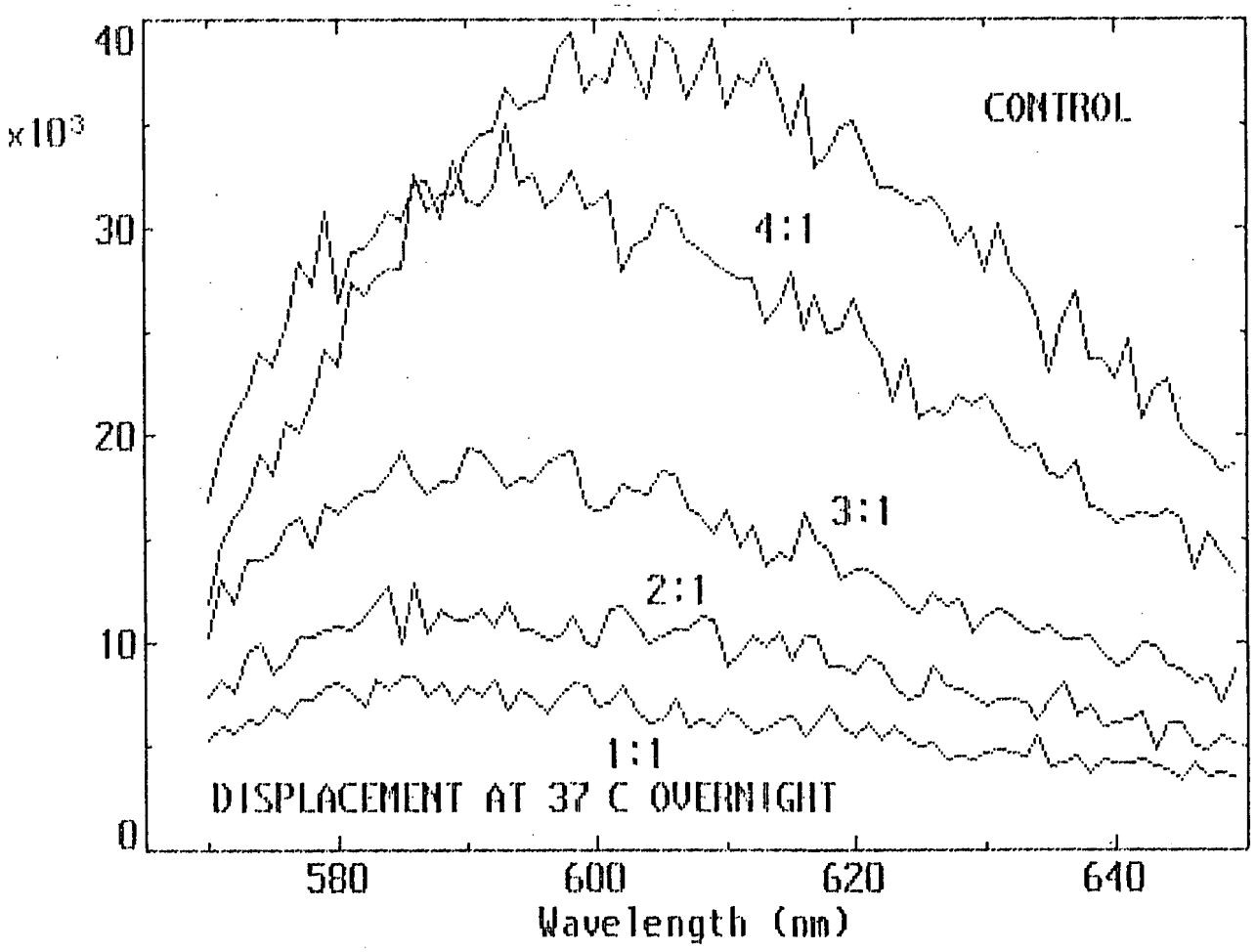

40
30
20
10
0
x10³
CONTROL
4:1
3:1
2:1
1:1
DISPLACEMENT AT 37 C OVERNIGHT
580
600
620
640
Wavelength (nm)

**Figure 17**

pIBI 31-BH5-2

fmet AUG of Lac z {**T7 Promotor region**····
LAC PROMOTOR..ATG ACC ATG ATT ACG CCA GAT ATC AAA TTA ATA CGA CTC ACT ATA

oligo 50-mer 3'- tac t*aa t*gc ggt* ct*a t*ag t*Vt aat* tat* gct* gag t*ga t*at* c-5'
10 base insert

T7 RNA Start {«« **T3 Promotor Region** }
IGGG CTC ICCT TTA GTG ACG GTT AAT
···»»} «- T3 Start Signal

pIBI 31 BSII/HCV

fmet AUG of Lac z {T3 Promotor region -»} T3 RNA Start
LAC PROMOTOR ..ATG ACC ATG ATT ACG CCA AGC TCG AAA TTA ACC CTC ACT AAA /GGG
oligo 50-mer 3'- tac t*aa t*ac t*aa t*gc ggt* t*V--10 base insert--.....

{«- T7 Promotor Region }
MULTIPLE CLONING SITE + 390 BASE INSERT CTA /TAG TGA GTC CGT ATT AAT....
«- T7 Start Signal
5'-ct*a t*ag t*ga gt*c gt*a tt*a at*.....

**Figure 18**